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| **FRACTIONS AND DECIMALS** | | |
| **Year Level** | **Content Descriptor** | **Elaborations** |
| **Year 1** | * Recognise and describe one half as one of two equal parts of a whole. (ACMNA016) * Literacy Critical and creative thinking Numeracy | * Sharing a collection of readily available materials into two equal portions * Splitting an object into two equal pieces and describing how the pieces are equal |
| **Year 2** | * Recognise and interpret common uses of halves, quarters and eighths of shapes and collections (ACMNA033) * Literacy Critical and creative thinking Numeracy | * Recognising that sets of objects can be partitioned in different ways to demonstrate fractions * Relating the number of parts to the size of a fraction |
| **Year 3** | * Model and represent unit fractions including 1/2, 1/4, 1/3, 1/5 and their multiples to a complete whole (ACMNA058) * Intercultural understanding Critical and creative thinking Numeracy Asia and Australia´s engagement with Asia | * Partitioning areas, lengths and collections to create halves, thirds, quarters and fifths, such as folding the same sized sheets of paper to illustrate different unit fractions and comparing the number of parts with their sizes * Locating unit fractions on a number line * Recognising that in English the term ‘one third’ is used (order: numerator, denominator) but that in other languages this concept may be expressed as ‘three parts, one of them’ (order: denominator, numerator) for example Japanese |
| **Year 4** | * Investigate equivalent fractions used in contexts (ACMNA077) * Literacy Critical and creative thinking Numeracy * Count by quarters halves and thirds, including with mixed numerals. Locate and represent these fractions on a number line (ACMNA078) * Literacy Intercultural understanding Critical and creative thinking Numeracy Sustainability Aboriginal and Torres Strait Islander histories and cultures * Recognise that the place value system can be extended to tenths and hundredths. Make connections between fractions and decimal notation (ACMNA079) * Literacy Critical and creative thinking | * Exploring the relationship between families of fractions (halves, quarters and eighths or thirds and sixths) by folding a series of paper strips to construct a fraction wall * Converting mixed numbers to improper fractions and vice versa * Investigating the use of fractions and sharing as a way of managing Country: for example taking no more than half the eggs from a nest to protect future bird populations * Using division by 10 to extend the place value system * Using knowledge of fractions to establish equivalences between fractions and decimal notation |
| **Year 5** | * Compare and order common unit fractions and locate and represent them on a number line (ACMNA102) * Critical and creative thinking * Investigate strategies to solve problems involving addition and subtraction of fractions with the same denominator (ACMNA103) * Literacy Critical and creative thinking Numeracy * Recognise that the place value system can be extended beyond hundredths (ACMNA104) * Critical and creative thinking * Compare, order and represent decimals (ACMNA105) | * Recognising the connection between the order of unit fractions and their denominators * Modelling and solving addition and subtraction problems involving fractions by using jumps on a number line, or making diagrams of fractions as parts of shapes * Using knowledge of place value and division by 10 to extend the number system to thousandths and beyond * Recognising the equivalence of one thousandths and 0.001 * Locating decimals on a number line |
| **Year 6** | * Compare fractions with related denominators and locate and represent them on a number line (ACMNA125) * Critical and creative thinking * Solve problems involving addition and subtraction of fractions with the same or related denominators (ACMNA126) * Literacy Critical and creative thinking Numeracy * Find a simple fraction of a quantity where the result is a whole number, with and without digital technologies (ACMNA127) * Literacy Information and communication technology capability Numeracy * Add and subtract decimals, with and without digital technologies, and use estimation and rounding to check the reasonableness of answers (ACMNA128) * Information and communication technology capability Critical and creative thinking Numeracy * Multiply decimals by whole numbers and perform divisions by non zero whole numbers where the results are terminating decimals, with and without digital technologies (ACMNA129) * Information and communication technology capability Critical and creative thinking Numeracy * Multiply and divide decimals by powers of 10 (ACMNA130) * Literacy Critical and creative thinking * Make connections between equivalent fractions, decimals and percentages (ACMNA131) * Critical and creative thinking Numeracy | * Demonstrating equivalence between fractions using drawings and models * Understanding the processes for adding and subtracting fractions with related denominators and fractions as an operator, in preparation for calculating with all fractions * Solving realistic additive (addition and subtraction) problems involving fractions to develop understanding of equivalent fractions and the use of fractions as operators * Modelling and solving additive problems involving fractions by using methods such as jumps on a number line, or by making diagrams of fractions as parts of shapes * Recognising that finding one third of a quantity is the same as dividing by 3 * Extending whole number strategies to explore and develop meaningful written strategies for addition and subtraction of decimal numbers to thousandths * Exploring and practising efficient methods for solving problems requiring operations on decimals, to gain fluency with calculating with decimals and with recognising appropriate operations * Interpreting the results of calculations to provide an answer appropriate to the context * Multiplying and dividing decimals by multiples of powers of 10 * Connecting fractions, decimals and percentages as different representations of the same number, moving fluently between representations and choosing the appropriate one for the problem being solved |